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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,436	11/09/1999	HIROSHI KANAYAMA	991238	6727

23850 7590 09/26/2002

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 09/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/423,436

Applicant(s)
KANAYAMA ET AL.

Examiner
LA VILLA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 22, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-7, and 9-12 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7, and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 22 July 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/423,436 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
3. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 4 and 9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a roughened surface having grooves made by drilling or broaching followed by etching, shot blasting, etc., does not reasonably provide enablement for a grooved surface made by etching, shot blasting, etc. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. At page 14, lines 28-34 of the Specification, applicant explains that techniques for obtaining a roughened surface having groove formations are limited to drilling or broaching possibly followed by certain techniques such as shot-blasting, etching, flame-spraying, or chemical treatment to obtain the claimed degree of roughening. The rejected claims appear to require that the grooved aspect of the roughness is achieved by the claimed roughening methods in the respective claims. Applicant's response

appears to make an argument that there is support for Claims 5 and 10, which claims have not been rejected on this ground.

5. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a sliding bearing of the claimed structure that is formed from a homogeneous copper alloyed structure that is subject to use in order to obtain the claimed elevated Ag/Sn(additive element) composition near the vicinity of the roughened surface, does not reasonably provide enablement for a sliding bearing of the claimed structure that is formed in any other manner. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. Applicant has taught that the applicant's disclosed methodology, namely incorporating a homogeneous copper alloy composition in a structure comprising the claimed backing layer, said copper alloy, and an overlay, and subjecting the laminate to working engine conditions to create the claimed structure having a concentrated surface layer is critical. See page 7, lines 26-36 of applicant's Specification. As currently drafted, the claim encompasses structures made by other processes. For example, were the copper alloy to be a bilayered structure of two homogeneous materials that satisfy the claimed limitations with respect to concentration, the claimed terms would be met. However, applicant's disclosure teaches that it is necessary to form the claimed structures by their use in an engine apparatus in order to provide effective laminates.

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6. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's recitation of a "sublayer that is not directly adjacent said backing metal" is new matter, as it comprises a negative limitation without antecedent support in the originally filed Specification. Ex parte Grasselli, 231 USPQ 393, 394 (PTO Bd. App. 1983).
7. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a portion of a sublayer that comprises at least one of the Ag/Sn(or additive element) solid dissolved components wherein the Ag/Sn(or additive element) is solid dissolved in copper matrix, does not reasonably provide enablement for Ag/Sn(or additive element) solid dissolved in other matrices. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. The entire specification relates to effective laminates that are comprised of copper matrices. Applicant at page 7, final paragraph teaches that copper alloys are a necessary ingredient of the claimed invention. Applicant has provided no guidance as to how one of ordinary skill in the art would provide different matrix compositions that are effective.
8. The following is a quotation of the second paragraph of 35 U.S.C. 112:
9. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 2, 4-7, and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- I. Regarding Claims 1 and 2, with respect to the composition of the copper alloy, it is unclear whether the composition is limited to the claimed ingredients or may comprise additional ingredients. Applicant recites that the copper alloy contains certain amounts of Ag and Sn, with the balance consisting essentially of Cu, for example, in Claim 1. Therefore, applicant has not clarified whether the alloy comprises Ag, Sn, and Cu or consists essentially of Ag, Sn, and Cu. In claim 2, the same uncertainty arises, the only difference being that there is also additive element present.
- II. Regarding Claims 1 and 2, it is unclear what is meant by the phrase "said alloy having defined a layer parallel to and adjacent to said backing metal." It is unclear what constitutes a parallel layer. It is unclear whether what is claimed is a backing metal on which is directly disposed a layer comprising a copper alloy or something else. Is to define a layer the same as to be a layer? It is unclear whether the claimed sublayer is part of the claimed layer or whether the claimed layer and claimed sublayer are distinct and separate layers.

- III. Regarding Claims 1 and 2, it is unclear what is meant by the phrase "at least the vicinity of said roughened surface." Where is the vicinity? Is it related to the location of the sublayer? If there is Ag/Sn solid dissolved in Cu matrix at "more" than the vicinity, does this refer to the locations "at the surface" or "away from the surface" or both?
- IV. Regarding Claims 1 and 2, it is unclear what is the relationship between "a portion of said sublayer" and "said sublayer."
- V. Regarding Claims 1, 2, 11, and 12, it is unclear what is the antecedent basis of the phrase "said layer nearest said backing metal." Is this the "alloy having a defined layer parallel to and adjacent to the backing metal"?
- VI. Regarding Claims 11 and 12, it is unclear what is meant by the phrase "the total atomic concentration in said sublayer." Does this actually mean to refer to the "sublayer" or to the "at least a portion of said sublayer"? If the former, it is unclear how one demarcates the portions from the entire sublayer to make the determination required of these claims. It is unclear what is the antecedent basis of the phrases "said hexagonal compound" and "said eutectic" as the parent claims make

reference to more than one of each of these. It is unclear to which hexagonal compound or eutectic is reference being made.

VII. Regarding Claims 1 and 2, it is unclear what is the antecedent basis of the phrase "the copper matrix" as there is no prior mentioning of this matrix.

VIII. Regarding Claims 4 and 9, it is unclear whether the claimed formation methods are intended to be exclusive of a method for making the grooved aspect or whether the claimed formation methods refer to the post-groove formation step in which the claimed degree of roughness is to be achieved.

Response to Amendment

11. In view of applicant's amendments and arguments, applicant has traversed the section 112, first paragraph rejection and section 112, second paragraph rejections of the Office Action mailed on 21 February 2002. Those rejections not repeated above have been withdrawn. The above-provided rejections address applicant's traversals for those rejections that are not newly set forth.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is

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(703) 308-4428. The examiner can normally be reached on Mondays and Tuesdays.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

14. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
September 24, 2002

A handwritten signature in black ink, appearing to read 'Michael La Villa', with a stylized, cursive script.